



Commercial Kitchen Hood & Hood Fire Suppression System Permit Submittal Requirements

PERMIT REQUIRED: A **Commercial Kitchen Hood Mechanical Permit** is required for the installation, alteration, or relocation of commercial kitchen hoods. The International Mechanical Code (IMC) requires that a Type I Hood be installed over any appliance that produces grease or smoke. A fire suppression system must be installed for the protection of the commercial cooking equipment in conjunction with a Type I Hood. A separate **Fire Suppression System Permit** is also required and all systems must meet UL 300 requirements in accordance with the International Fire Code (IFC). A permit is also required for the installation or relocation of **Commercial Type II Hoods** above dishwashers and light-duty appliances that produce heat or moisture and do not produce grease or smoke.

CODES: International Mechanical Code (Current Edition)
International Fire Code (Current Edition)
International Fuel Gas Code (Current Edition)
NFPA 96 (Current Edition)

FEES: Please refer to City fee schedules

COMMERCIAL KITCHEN HOOD **PERMIT SUBMITTAL REQUIREMENTS**

1. PERMIT APPLICATION [FORM C](#)

2. GENERAL NOTES

- a) Property address, floor and/or suite number and name of business.
 - a. Designate the use of building or tenant space (i.e., office, retail, medical, etc.) and occupancy group (i.e., B, A3, etc.).
 - b. Specify type of construction of the building (i.e., Type IA, IIB, VA, VB etc.).

3. WORKING DRAWINGS *Three (3) complete sets with the following:*

A. SITE PLAN

- 1) Location of building(s) within twenty (20) feet of hood exhaust outlet.
- 2) Dimension distances from proposed exhaust outlet to supply ducts, windows, doors, and property lines.

B. ELEVATION VIEW

- 1) Height of exhaust outlet above adjoining grades, roof lines, parapet or elevator shaft, etc.
- 2) Location of proposed exhaust hood outlet on exterior of building.

C. FLOOR PLAN

- 1) Outline of hood overhang with equipment below. (specify each piece of equipment, i.e., grill, oven, etc.).
- 2) Dimension hood overhang.
- 3) Provide wall construction detail including sheetrock, heat shield, etc.
- 4) Grease filter location, cleanouts, and minimum clearance to combustibles.

D. SECTION VIEW OF SHAFT WALL AND HOOD/EXHAUST SYSTEM

- 1) Detail shaft wall materials.
- 2) Detail ductwork enclosure and ductwork construction.
- 3) Exhaust system details.

4. COMMERCIAL KITCHEN HOOD WORKSHEET

Complete and submit three (3) copies of the attached kitchen hood worksheet. Clearly show and coordinate information contained in worksheet on the plans.

INSPECTION REQUIREMENTS

Inspections for the kitchen hood installation, ductwork, shaft walls, etc. is performed by the City Building Inspector during normal City business hours. All shaft work shall be inspected prior to duct installation. A light test shall be performed by passing a lamp having a power rating of not less than 100 watts through the entire section of ductwork to be tested. This should be tested before installation within concealed spaces. Call (425) 771-0220 extension 1333 a minimum of 24 hours in advance for an inspection. At the discretion of the City Planning Division a site inspection may be required to determine the visual impacts of any mechanical projections, diffusers, return air grills, vents, etc. on the roof or outside of the building. Check the permit or job card for all required inspections.

FIRE SUPPRESSION SYSTEM
PERMIT SUBMITTAL REQUIREMENTS

All Type I Hoods are required to have a fire suppression system.

1. PERMIT APPLICATION FORM C

2. GENERAL NOTES

- a) Property address, floor and/or suite number and name of business.
- b) Designate the use of building or tenant space (i.e., office, retail, medical, etc.) and occupancy group (i.e., B, A3, etc.).
- c) Specify type of construction of the building (i.e., Type IA, IIB, VA, VB etc.).

3. WORKING DRAWINGS *Three (3) complete sets with the following:*

- a) Show equipment and outline of hood overhang with equipment below.
- b) Show location of piping, manual pull and nozzle locations.
- c) Class K fire extinguishers are required. Extinguishers must be mounted in an accessible location no more than 30 feet from the appliance(s) served. In large kitchens or multiple cooking stations additional Class K fire extinguisher may be required. The total number and location of Class K fire extinguishers shall be determined by the City Fire Marshal during inspection.

4. CUT SHEETS *Three (3) copies*

Provide cut sheets showing nozzles and number used, extinguishing agent and amount, shunt switches, piping, etc. and their UL/FM listings are required.

NOTE: Make-up air must shut off and the hood exhaust remain operating when suppression system is activated.

INSPECTION REQUIREMENTS

Inspections for the fire suppression system are conducted by the City Fire Marshal during normal City business hours. All portions of the system must be under test and be observed by the Fire Marshal unless specifically waived. The fire suppression permit number, business name, address and suite number must be provided in order to schedule an inspection. Call (425) 775-7720 a minimum of 24 hours in advance for an appointment. **After** Fire Department approval contact the City Building Inspector by calling 425-771-0220 extension 1333 to schedule for a final building inspection. At the discretion of the City Planning Division a site inspection may be required to determine the visual impacts of any mechanical projections, diffusers, return air grills, vents, etc. on the roof or outside of the building. Check the permit or job card for all required inspections.

NOTE: THE PURPOSE OF THIS HANDOUT IS TO ASSIST THE PUBLIC IN COMPLYING WITH DETAILED PERMIT SUBMITTAL REQUIREMENTS. IT IS NOT A COMPLETE LIST OF PERMIT OR CODE REQUIREMENTS AND SHOULD NOT BE USED AS A SUBSTITUTE FOR APPLICABLE LAWS AND REGULATIONS. IT IS THE RESPONSIBILITY OF THE OWNER/DESIGN PROFESSIONAL TO REVIEW THE SUBMITTAL FOR COMPLETENESS AND APPLICABILITY TO OTHER CODES. ONLY COMPLETE APPLICATIONS WILL BE ACCEPTED BY THE CITY FOR REVIEW.



Plan Check No. _____

City of Edmonds Commercial Kitchen Hood Worksheet

Project Address: _____

Business Name: _____

Two copies of this worksheet/checklist must accompany plan sets submitted for permit applications involving the installation of a commercial kitchen range hood. Applicant shall provide plan and elevation views showing ductwork, duct enclosure, hood, cooking surface air supply, exhaust system, and equipment support system including structural framing detail (see attached typical construction views) and type of cooking appliances below the hood. This worksheet is based on the IMC 506, 507 & 508.

Is this an existing restaurant, food processing area, or food service area? ☐ Yes ☐ No

If no, a separate tenant improvement permit and/or change of use permit is required.

1. Type of Material/Gage

Type I Hood Installed for grease and smoke removal (i.e.: deep fat fryer, charbroilers, grill and roasting ovens)				Type II Hood For steam, vapor, heat or odor removal (i.e.: steamer, pastry and pizza ovens) All Type II hoods shall have a permanent, visible label identifying it as a Type II Hood	
	Type of Material	Gage		Gage	
		Min	Proposed	Min	Proposed
Duct and Plenum	Stainless Steel	18		24 (Up to 12" diameter)	
				22 (Up to 30" diameter)	
	Galvanized Steel	16		24 (Up to 12" diameter)	
				22 (Up to 30" diameter)	
Hood	Stainless Steel	20		22	
	Galvanized Steel	18		24	
Flashing	Stainless Steel	22		NOT REQUIRED	
	Galvanized Steel	22			

2. Quantity of air exhausted through the hood

Hoods shall extend beyond the cooking surface a minimum of 6" on all open sides and the distance between the lip of the hood and the edge of the cooking surface shall not exceed 4'. In the formulas below the following values apply:

N = number of hood sides exposed

Q = quantity of air

A = area of hood in ft²

L = lineal feet of the front cooking equipment surface

Cooking surface area = _____ x _____ = _____ ft²

Hooded area (A) = _____ x _____ = _____ ft²

	Canopy Hood	Non-Canopy Hood
N=4	$Q = 150 \times (A) =$ _____ cfm	
N=3 or less	$Q = 100 \times (A) =$ _____ cfm	
Type II Hood		
N=4	$Q = 75 \times (A) =$ _____ cfm	$Q = 150 \times (L) =$ _____ cfm
N=3 or less	$Q = 50 \times (A) =$ _____ cfm	

3. Exhaust duct systems

- a. Provide size of duct in square feet _____

Type of Hood	Air Velocity (FPM) Required	CFM/Duct Area (ft ²)	Proposed Air Velocity (FPM)
I	1500 to 2500 (minimum)	/	
II	500 to 2500 (recommended)	/	

- b. Static Pressure Loss

Duct _____ in. + grease filters/extractor _____ in. + other _____ in. = Total _____ in. of H₂O.

- c. Fan and motor shall be of sufficient capacity to provide the required air movement. Fan motor shall not be installed within ducts or under hood.

Fan make and model _____ HP _____

Static pressure _____ in. at _____ cfm.

4. Exhaust outlet location

Exhaust outlets shall terminate above the roof. If exhaust outlet terminates at exterior wall, provide cleaning equipment.

Table of Clearances		
Location/Situation	Minimum Required	Proposed
Extend above roof	40 inches (Type I), 24" (Type II)	
Distance from same or adjacent building	10 feet	
Distance above adjoining grade	10 feet	
Distance from property line	10 feet	
Distance from windows and doors	10 feet	
Distance from mechanical air intake	10 feet	
Distance of duct above adjoining grade at alley	16 feet	

5. Make Up Air

- The amount of make up air supplied shall be equal to the amount of exhaust air : _____ cfm.
- Makeup air system shall be electrically interlocked to insure that the makeup air is provided when the exhaust system is in operation.
- Makeup air shall be provided by a fan or motorized damper of sufficient capacity. Windows and door openings shall not be used for the purpose of providing makeup air.
- The temperature difference between the make up air and air in the conditioned space shall not exceed 10°F.

Fan	Motorized Damper
Make and model _____	Recommended air velocity, 500 fpm
Static Pressure _____ in. at cfm.	Duct area req. = cfm/500 fpm _____ / 500 = _____ ft ²
Duct Dimension, _____, area _____ ft ²	Duct dimension req. = _____
Air velocity = cfm/area _____ / _____ = _____ fpm	Eff. Damper opening _____ x _____ = _____ ft ²

6. Slope of Duct and Cleanout access (IMC 506.3.7, 506.3.8)

Horizontal ducts less than 75' feet in length are required to be sloped a minimum ¼" inch per foot. Horizontal ducts that exceed 75' feet in length are required to be sloped 1" inch per foot. Note: tight-fitting cleanout doors shall be provided at every change in ductwork direction.

7. Duct Enclosure (IMC 506.3.10)

- a. Ducts penetrating a ceiling, wall, or floor shall be enclosed in a duct enclosure from the point of penetration to the outside air. A duct may only penetrate exterior walls at locations where unprotected openings are permitted by the International Building Code (or current adopted edition).
- b. On the plans, detail how the duct enclosure will be constructed to meet the minimum fire protection rating.
- c. Clearance from the duct to the interior surface of enclosures of combustible construction shall be 18" minimum. Clearance from the duct to the interior surface of enclosures of noncombustible (i.e. metal studs), or gypsum wall board attached to metal studs shall be 6" minimum.
- d. Duct enclosures shall be sealed around the duct at the point of penetration and vented to the exterior through a weather-protected opening.
- e. Duct enclosures shall serve only one kitchen exhaust duct.
- f. Tight-fitting access openings shall be provided at each cleanout door. Access enclosure doors shall have a fire resistance rating equal to the enclosure.

8. Multiple Hood Venting (IMC 507.15)

- a. A single duct system may serve more than one hood located in the same story of the building, provided that the interconnecting ducts do not penetrate any fire resistive construction.
- b. A hood outlet shall serve not more than a 12-foot section of hood.

9. Additional Information for Type I Hoods only

- a. Grease filters shall be installed at minimum 45-degree angle and equipped with drip tray and gutter beneath lower edge of filters.
- b. Distance between the lowest edge of grease filters and cooking surface shall be:
Grill, fryer, exposed flame: not less than 2 feet
Exposed charcoal, charbroil shall not be less than 3 ½ feet
- c. Type I Hood and ducts shall have clearances from combustible construction per table below:

	Unprotected		Protected 1-HR Fire resistive Material	
	Min Required 18"	Proposed "	Minimum Required 3"	Proposed "
Hood	Min Required 18"	Proposed "	Minimum Required 3"	Proposed "
Duct	Min Required 18"	Proposed "	Minimum Required 3"	Proposed "

- d. Hoods less than 12 inches from the ceilings or walls shall be flashed solidly.
- e. All joints and seams shall be made with continuous liquid-tight weld or braze made on the external surface of the duct system. Vibration insulation connector may be used provided it consists of noncombustible packing in a metal sleeve joint.
- f. Centrifugal fans used for discharging grease exhaust shall be positioned in a bottom horizontal discharge position only. A duct that diverts the fan discharge shall not exceed 3 times the diameter of the fan outlets connected to the fan outlet. The duct shall be provided with an adequate drain opening at the lowest point to permit drainage of grease to a suitable collection device.
- g. A fire suppression system and portable fire extinguishers shall be installed per the international fire code (IFC).